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The Effect of Qur'an Reading in Jewawut Infusion (*Setaria italica*) on Changes in Cholesterol Levels: A Study in Vivo

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Abstract
Health is the main key in carrying out of daily activities. One of the health problems and can be dangerous if not treated properly is high cholesterol levels. One of the treatment efforts is to return to the Al-Qur'an. This study aims to combine the use of ruqyah water with the recitation of the verse al-Quran with jewawut herbs to reduce cholesterol levels. The method is laboratory experimental with pre-post test by measuring cholesterol levels before and after treatment in mice. There were 5 groups used, positive control, negative control, giving ruqyah water, giving jewawut infusion, giving ruqyah water to jewawut infusion. The results of this study showed a significant difference ($p < 0.05$) in the provision of ruqyah water to jewawut infusion.

I. Introduction

Currently, health problems have shifted from infectious diseases to degenerative diseases. The cause is thought to be due to changes in lifestyle, diet, environmental factors, and lack of physical activity. Increased degenerative diseases can affect mortality (Sofi & Dinu, 2016).

One of the habits of society today is consuming fast food and snacks that contain high amounts of fat, for example, meat, cheese, butter, milk, mayonnaise, fried foods, chocolate, and many others. This can lead to a buildup of fat and cholesterol in the body, which is commonly referred to as "hypercholesterolemia" (Sofi & Dinu, 2016) (Anitha, et al., 2022).

Hypercholesterolemia is a condition in which cholesterol levels in the blood exceed the normal limit of 160-200 mg/dL. Hypercholesterolemia in the blood is closely related to the occurrence of coronary heart disease, hypertension, stroke, and atherosclerosis. Hypercholesterolemia is common in obese or elderly people, but that does not rule out the possibility that it can also occur in thin or young people (Soran H, et al., 2018).

Lifestyle influences such as the habit of doing regular exercise are important factors for controlling total cholesterol. Apart from that, another factor in controlling total cholesterol is maintaining a low saturated fat and low cholesterol diet, as well as eating foods high in fiber, vitamin, and natural minerals (Anusha, Hymavathi, Vijayalakshmi, Reddy, & Robert, 2018). In addition, lowering cholesterol levels, can be achieved by using statin drugs. But now people are aware of the use of synthetic drugs that have side effects on the body. Therefore, people are aware of the use of various ingredients of natural origin to treat various diseases. The reason for the use of natural ingredients to overcome high cholesterol levels is that, apart from being used and known by the ancient people, they are relatively safe, the price is affordable, and they are easily found in various parts of the region (Soran H, et al., 2018).

Jewawut is a type of small grain cereal that contains nearly the same nutritional content as rice and wheat. However, the use of barley is still limited to porridge or rice, it has not been utilized in any other form. The carbohydrate content of barley is 7.2% higher than rice and 12% higher than corn. Besides that, it contains protein that is 1.8% higher than rice and 0.7% higher than corn. The content of jewawut fiber is 0.4% higher than rice. Barley contains important components that have the potential to be a major source of energy supply such as vitamins, antioxidants, especially B vitamins, Niacin, B6, and folacin are also essential amino acids such as isoleucine, leucine, phenylalanine, threonine, and nitrilosides, which can play a role in inhibiting the growth of cancer cells, reducing the

risk of developing heart disease. Based on various studies, jewawut can reduce cholesterol levels such as LDL, TC, TG, and VLDL. Therefore, jewawut can be used to control cholesterol levels (Anusha, Hymavathi, Vijayalakshmi, Reddy, & Robert, 2018).

Product processing is an innovation that is expected to provide benefits to the wider community. Dr. Halu-N developed a number of new ijtihad in his book Al-Fathun Nawa. The interpretation of the Qur'an is broader and touches on worldly matters so that it is easier to understand and helps people to always use the Qur'an as the basis for bringing up furqons, or innovations and creations in life that lead to the perfection of human civilization. One of the innovations is reading the holy verse on the water used to boil jewawut, where the boiled water will have an effect on water molecules and barley so that it can have a better effect on reducing cholesterol (Radin, Lund, Emoto, & Kizu, 2008).

Therefore, this research was conducted to prove the miracle of the Qur'an which is applied to jewawut infusion so that people can find alternatives to reduce cholesterol levels by combining the reading of the al-Quran verse with herbal jewawut which is made in the form of infusion (stew). This research is important to developing the use of the Qur'an as a healthy and developing lifestyle utilization of natural ingredients into an alternative health product in reducing or controlling cholesterol levels.

II. Research Method

II.1 Design

The type of this research is laboratory experimental. From March to July 2020, the study was carried out at UIN Alauddin Makassar's pharmacognosy and pharmacology laboratory.

II.2 Sample

The study sample was obtained from Enrekang Regency.

II.3 Instruments and Materials

The following instruments and equipment were used for the experiment a pot, stove, oven, thermometer, scale, basin, spoon, measuring cup, stirrer, sieve, cholesterol strips, beaker glass, scissors, and a hematometer (for the cholesterol check).

The materials used for the experiments were jewawut, mice feed, quail egg yolk, distilled water, alcohol, alcohol swab, lancet, aluminum foil, cotton, simvastatin, amylum, and lactose.

II.4 Procedure

II.4.1 First Step

Making Infusion/Stew of Jewawut. The jewawut obtained from Enrekang Regency, South Sulawesi, is processed into flour, which begins with the washing stage until it is clean, then is soaked for 24 hours, dried in a freeze dryer for 3 × 24 hours, roasted, blended, and sieved. Furthermore, making jewawut boiled water entails directly mixing the jewawut flour and adding water to boil the jewawut flour until it forms cloudy water. The boiled water is, separated from the remaining dregs.

II.4.2 Second Step

The water used to boil jewawut is water that has had the Qur'an verses read with a good and correct reading according to recitation and Qira'ah knowledge. This is called as treatment water.

II.4.3 Third Step

Treatment of experimental animals. The experimental animals used in the experiment were male mice weighing 20-30 g. The experimental animals were adapted for 7 days, given the same feed, and subjected to routine body weight measurements every day and observations of changes in behavior. On the 7th day, it is reweighed and recorded. Then she began to be given quail egg yolk (cholesterol feed) for 3 consecutive days. On day 3, blood was drawn and recorded as the initial cholesterol level. The standard feed was continued until the end of the observation to maintain the nutritional balance in the experimental animals. Then the mice were divided into 5 groups, each consisting of 5 mice:

a. Group I, the group that was only given drinking water without treatment as a negative control group.
b. Group II, the group given simvastatin 1.3 mg/Kg BW as a positive control group.
c. Group III, the group of mice given treatment water
d. Group IV, the group of mice given jewawut 50 mg/mL with water without treatment.
e. Group V, the group of mice given millet 50 mg/mL with treatment water.

Observations were made for 5 days in each group, and monitoring was carried out every day. On the third and fifth days, blood was drawn and the cholesterol levels of each group of mice were measured then recorded.

III. Results and Discussion

Hypercholesterolemia is a dyslipidemic condition that is almost a common problem for people. This condition is usually asymptomatic, so it is not easy to detect. High cholesterol levels can trigger other diseases, such as hypertension, stroke, heart disease, metabolic disorders, and several other disorders. As a result, this cholesterol disorder should be avoided by changing one's daily lifestyle, specifically by improving diet and engaging in regular light physical activity (light exercise). Improving your lifestyle by paying attention to what you eat and drink is the easiest way to start. This research was conducted in vitro, using mice as

experimental subjects. The mice used in this experiment were mice induced with quail egg yolk, so that the mice were in a condition of dyslipidemia (hypercholesterolemia). Quail egg yolk contains a higher cholesterol content than chicken eggs, so it is very well used to accelerate the occurrence of hypercholesterolemia in mice. Changes in cholesterol levels in 5 groups can be seen in Table 1-5.

Table 1. Changes of Cholesterol Levels in Group I

Mice Weight (g)	Changes in Cholesterol Levels (mg/dL)			% ↓
	Day 0	Day 3	Day 5	
28,54	107	237	205	32
39,11	146	139	151	Occur ↑ 12
31,49	143	158	146	12
35,04	100	138	205	↑ 67
28,92	114	160	158	18

Table 2. Changes of Cholesterol Levels in Group II

Mice Weight (g)	Changes in Cholesterol Levels (mg/dL)			% ↓
	Day 0	Day 3	Day 5	
30,53	138	158	217	↑ 59
36,06	150	154	168	↑ 14
32,04	107	118	182	↑ 64
33,69	157	153	149	4
35,06	128	150	150	0

Table 3. Changes of Cholesterol Levels in Group III

Mice Weight (g)	Changes in Cholesterol Levels (mg/dL)			% ↓
	Day 0	Day 3	Day 5	
24,90	111	120	126	↑ 6
26,68	114	-	-	0
17,68	102	-	-	0
28,46	115	204	166	38
26,04	126	166	176	↑ 10

Table 4. Changes of Cholesterol Levels in Group IV

Mice Weight (g)	Changes in Cholesterol Levels (mg/dL)			% ↓
	Day 0	Day 3	Day 5	
30,44	126	182	176	6
38,68	160	224	171	53
29,66	124	157	126	31
30,95	131	180	124	56
32,10	105	198	221	↑ 23

Table 5. Changes of Cholesterol Levels in Group V

Mice Weight (g)	Changes in Cholesterol Levels (mg/dL)			% ↓
	Day 0	Day 3	Day 5	
21,88	149	194	143	51
26,50	185	149	128	21
30,50	143	160	136	24
30,89	176	186	162	24
30,95	146	152	171	↑19

Normal cholesterol levels in mice range below 82 mg/dL. In the whole group, although it did not reach normal values, there were changes, namely a decrease in cholesterol levels before and after the

treatment. In table 5, there is a change that is better than the other groups, even better than the positive control, namely the administration of simvastatin as an anti-cholesterol drug. Changes in cholesterol levels in mice can be seen in the diagram. Group 5 was the group that received jewawut decoction therapy using treated water (water ruqyah). Changes in group 5 showed a significant reduction in cholesterol levels in most of the mice in the treatment group. Looking at the data shown by the changes in mice, it can be concluded that the administration of drugs using water that is recited from the Qur'an has a better effect.

Furthermore, a one-way ANOVA statistic was used to see how the difference in cholesterol levels in each group was then compared to see which group had a significant effect. In this analysis, significant results were obtained with a p-value <0.05 (Table 6).

From these results, it can be concluded that the changes in cholesterol levels that occur in the group show significantly different results. Different results can be seen in the follow-up test in Table 7 to see which group has a significant effect.

Table 6. Statistical Analysis with Oneway ANOVA

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14438.240	4	3609.560	3.228	.034
Within Groups	22366.400	20	1118.320		
Total	36804.640	24			

Table 7. Advanced Test with Oneway ANOVA

Multiple Comparisons

Kadar Kolesterol
Tukey HSD

(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kelompok 1	Kelompok 2	-23.200	21.150	.806	-86.49	40.09
	Kelompok 3	7.400	21.150	.997	-55.89	70.69
	Kelompok 4	37.600	21.150	.413	-25.69	100.89
	Kelompok 5	40.800	21.150	.335	-22.49	104.09
Kelompok 2	Kelompok 1	23.200	21.150	.806	-40.09	86.49
	Kelompok 3	30.600	21.150	.606	-32.69	93.89
	Kelompok 4	60.800	21.150	.063	-2.49	124.09
	Kelompok 5	64.000*	21.150	.047	.71	127.29
Kelompok 3	Kelompok 1	-7.400	21.150	.997	-70.69	55.89
	Kelompok 2	-30.600	21.150	.606	-93.89	32.69
	Kelompok 4	30.200	21.150	.618	-33.09	93.49
	Kelompok 5	33.400	21.150	.527	-29.89	96.69
Kelompok 4	Kelompok 1	-37.600	21.150	.413	-100.89	25.69
	Kelompok 2	-60.800	21.150	.063	-124.09	2.49
	Kelompok 3	-30.200	21.150	.618	-93.49	33.09
	Kelompok 5	3.200	21.150	1.000	-60.09	66.49
Kelompok 5	Kelompok 1	-40.800	21.150	.335	-104.09	22.49
	Kelompok 2	-64.000*	21.150	.047	-127.29	-.71
	Kelompok 3	-33.400	21.150	.527	-96.69	29.89
	Kelompok 4	-3.200	21.150	1.000	-66.49	60.09

From the table of the follow-up test results, it was found that the results were quite significant, namely in group 2 (the simvastatin therapy group) and group 5 (the group that received jewawut and water therapy, which was Qur'an), while the other groups did not show significant results. This means that the other groups get nearly identical results, while groups 5 and 2 with a p-value of < 0.05 get very different results. Group 5 showed a change in cholesterol levels that was quite good compared to the effects shown by other groups.

Jewawut is a natural ingredient that contains flavonoids that are high enough so that they have a high enough antioxidant effect. The presence of antioxidants provides a restorative effect on disorders in the body. The biochemical properties of flavonoids depend on their structure. The total number and configuration of hydroxyl groups are important in regulating antioxidant and antidiabetic

properties in extinguishing DPPH radicals, ABTS + radicals, and FRAP assays and increasing α-glucosidase and DPP-4 activity. The double bond C-2-C-3 and the C-4 group are two important structural features in the bioactivity of flavonoids, alkaloids and glycosides which may play a role in lowering high cholesterol levels in the body. Antioxidants act as an antidote to the presence of free radicals that cause diseases such as high cholesterol, so giving jewawut has the potential to reduce cholesterol levels (Sireesha, Kasetti, Nabi, Swapna, & Apparao, 2011).

The recitation of the holy Qur'an on water is another healing point. In this study, it was not seen in the group that only received water and recited the Qur'an. The treatment in this group did not show significant results because the experimental animals died, so their observations were not continued. The recitation of the verses of the Qur'an on water changes the model of the water molecule. The water molecule changes shape into crystals that can provide healing. The human body consists of approximately 70%, fluid so it needs fluids. The water component will easily blend with the body and flow to all members of the body. When compared to ordinary water, which has no action, the form of water crystals recited in the verses of the Qur'an can provide a new energy to body cells that are damaged or even die, allowing them to form new energy for cell production or cell repair. Water molecules can change with good words, one of which is reading the Qur'an in barley boiled water of jewawut. (Radin et al, 2008)

The Qur'an's information about various types of science can be proven using modern approaches such as this study. (Sayska & Arni, 2016) The combination of the effects of jewawut and water with the Qur'an verse shows a synergistic effect and is better than the treatment in other groups.

In this study, when compared to the other groups, reading water alone did not produce a better result. It was found that there were some data points on cholesterol that increased even though they had received drug administration. This could be due to stress factors that disrupt the stability of the experimental animals. Observations were also made for only 5 days, so the data obtained still requires further observation to see improvements in experimental animals. Research is expected to be continued on human subjects to see the maximum effect because of belief in the miracle of the verse of the Qur'an gives it its own energy to cure a disease.

IV. Conclusions

Jewawut (*Setaria italica*) infusion with Qur'an reading showed good results in reducing total cholesterol levels, which showed that *Setaria italica* infusion with Qur'an reading had anti-cholesterol activity where investigations were carried out in vivo. This shows that reciting verses of the Qur'an can be a solution to health problems. It is recommended that research be continued to investigate the possible mechanism of action of jewawut as an anti-cholesterol, especially against some cholesterol components, such as LDL, HDL, and triglycerides.

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